APPENDIX B

Requirements for Project Implementation

To ensure the protection of natural and cultural resources, Outstandingly Remarkable Values, and the free-flowing condition of the river within the Merced River corridor, a consistent set of mitigation measures will be applied to actions that result from this plan. These mitigation measures will also be applied to future actions that are guided by this plan. The National Park Service will prepare appropriate environmental review (i.e., National Environmental Policy Act, National Historic Preservation Act, and other relevant legislation) for these future actions. As part of the environmental review, the National Park Service will avoid, minimize, and mitigate adverse impacts when practicable.

Sustainable Design and Aesthetics

Projects shall avoid or minimize adverse impacts to natural and cultural resources. Development projects (e.g., buildings, facilities, utilities, roads, bridges, trails, etc.) or reconstruction projects (e.g., road reconstruction, building rehabilitation, utility upgrade, etc.) shall be designed to work in harmony with the surroundings, particularly in historic districts. Projects shall reduce, minimize, or eliminate air and water nonpoint-source pollution. Projects shall be sustainable whenever practicable, by recycling and reusing materials, by minimizing materials, by minimizing energy consumption during the project, and by minimizing energy consumption throughout the lifespan of the project.

Best Management Practices During Construction

The following best management practices will be implemented, as appropriate, prior to, during, and/or after specific construction (for the purposes of this discussion, construction includes major repair and/or rehabilitation, demolition, deconstruction, reconstruction, restoration, etc.). Specific tasks will include, but are not limited to, the following:

- Implement a compliance-monitoring program in order to stay within the parameters of National Environmental Policy Act and National Historic Preservation Act compliance documents, U.S. Army Corps of Engineers Section 404 permits, etc. The compliance-monitoring program will oversee these mitigation measures and will include reporting protocols.
- Implement a natural resource protection program. Standard measures include construction scheduling, biological monitoring, erosion and sediment control, use of fencing or other means to protect sensitive resources adjacent to construction, removal of all food-related items or rubbish to bear-proof containers, topsoil salvage, and revegetation. This includes specific construction monitoring by resource specialists as well as treatment and reporting procedures.
- Implement a cultural resource protection program. Standard measures include salvage of historic building materials, archeological monitoring during ground-disturbing activities (in keeping with the 1999 Programmatic Agreement), use of fencing or other means to protect sensitive resources adjacent to construction, and preparation of a discovery plan to handle unanticipated exposure of buried human remains. This includes specific construction monitoring by resource specialists and culturally associated American Indian people, as well as treatment and reporting procedures.
- Implement a traffic control plan, as warranted. Standard measures include strategies to maintain safe and efficient traffic flow during the construction period.
- Implement a dust abatement program. Standard dust abatement measures include the following elements: water or otherwise stabilize soils, cover haul trucks, employ speed limits on unpaved roads, minimize vegetation clearing, and revegetate post-construction.
- Implement standard noise abatement measures during construction. Standard noise abatement measures include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.

- Implement a noxious weed abatement program. Standard measures include the following elements: ensure construction-related equipment arrives to the site free of mud or seed-bearing material, certify all seeds and straw material as weed-free, identify areas of noxious weeds preconstruction, treat noxious weeds or noxious weed topsoil prior to construction (e.g., topsoil segregation, storage, herbicide treatment), and revegetate with appropriate native species.
- Implement a spill prevention and pollution control program for hazardous materials. Standard measures include hazardous materials storage and handling procedures; spill containment, cleanup, and reporting procedures; and limitation of refueling and other hazardous activities to upland/nonsensitive sites.
- Implement measures to reduce adverse effects of construction on visitor safety and experience.
- Implement a notification program. Standard measures include notification of sensitive receptors, utilities, and emergency response units prior to construction activities.
- Implement an interpretation and education program. Continue directional signs and education programs to promote understanding among park visitors.
- Use silt fences, sedimentation basins, etc. in construction areas to reduce erosion, surface scouring, and discharge to water bodies.
- Develop revegetation plans for the disturbed area and require the use of native species. Revegetation plans shall specify seed/plant source, seed/plant mixes, soil preparation, etc. Salvage vegetation shall be used to the extent possible.
- Delineate wetlands and apply protection measures during construction. Wetlands will be delineated by qualified National Park Service staff or certified wetland specialists and clearly marked prior to construction work. Construction activities shall be performed in a cautious manner to prevent damage caused by equipment, erosion, siltation, etc.
- Implement a fencing and flagging program to protect special-status species or sensitive habitats. This includes the following types of measures: use of high visibility snow fence about protected elderberry shrubs, marking trees to be retained, and use of signs (e.g., no refueling signs) in areas of high sensitivity.
- Implement a tree protection plan as warranted. This includes measures such as avoidance of the root-zone (typically 1.5 times the tree canopy), use of hand equipment for trenching within the root-zone, reduce compaction within root-zones, and maintain a natural grade.

Resource-Specific Measures

Geology, Geohazards, and Soils

- Conduct geotechnical and soils investigations as warranted. Implement appropriate siting, design, and construction measures to avoid or minimize geohazards. Provide erosion and sediment control.
- Avoid placing new facilities and buildings within geologic hazards areas whenever practicable.

Hydrology, Water Quality, and Floodplains

- An emergency preparedness plan will be developed for any facilities within the 100-year floodplain.
- Site new buildings outside of the floodplain, and/or use building engineering solutions to remove the building footprint from the floodplain, or flood-proof the building where feasible.
- For new facilities, and to the extent practicable for existing facilities, implement stormwater management measures to reduce nonpoint-source pollution discharge from roads, parking lots, and other impervious surfaces. This includes oil/sediment separators, street sweeping, infiltration beds, and use of permeable surfaces and vegetated or natural filters to trap or filter stormwater runoff.

Wetlands

- Conduct wetland surveys as warranted.
- Site and design facilities/actions to avoid adverse effects to wetlands. If avoidance is infeasible, minimize and compensate adverse effects to wetlands in accordance with Executive Order 11990 (Protection of Wetlands), the Clean Water Act, and Director's Order #77-1.
- Develop and implement restoration and/or monitoring plans as warranted. Plans shall include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.

Vegetation

- Conduct vegetation surveys as warranted.
- Site and design facilities/actions to avoid adverse effects to sensitive vegetative communities and large trees. If avoidance is infeasible, minimize and compensate adverse effects to sensitive vegetation as appropriate.

- Use only native plants in landscaping. Existing annosus centers in developed areas could be mitigated by landscaping with species that are not susceptible to infection, such as California black oak, live oak, and big-leaf maple.
- Prepare and implement a noxious weed abatement program. This includes restoration of degraded habitats, use of hand labor to remove weeds, and use of herbicides.
- Develop and implement restoration and/or monitoring plans as warranted. Plans shall include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Comply with the *Vegetation Management Plan* for landscaping and yard care within and around developed areas, including minimization of irrigation systems and planting with native species.

Wildlife

- Conduct wildlife surveys as warranted.
- Implement measures to reduce bear/human encounters. Measures include visitor education on bear behavior; installation of bear-proof food storage lockers at campsites and bear-proof garbage receptacles in parking lots and other facilities as warranted; enforcement of park regulations; regular trash collection; and removal of apples from historic orchards.
- Implement measures to reduce adverse effects of non-native wildlife. This includes use of processed feeds and hay at stables to reduce food for cowbirds, trapping programs for cowbirds, and measures to eradicate bullfrogs from wetland habitats.
- Site and design facilities/actions to avoid adverse effects to sensitive wildlife habitats or habitat features, especially during breeding seasons. If avoidance is infeasible, minimize and compensate adverse effects as appropriate.
- Minimize night lighting where practicable. Where night lighting is necessary, design lighting to be minimal, directed downward, and shielded.
- Educate the public on the dangers of intentional or unintentional feeding of park wildlife and on inadvertent harassment through observation or pursuit.

Special-Status Species

General Special-Status Species Measures

The following general measures will be employed to avoid, minimize or compensate for adverse effects to special-status species.

- Avoid adverse effects to special-status species when practicable.
- Conduct surveys for rare, special-status species as warranted.
- Site and design facilities/actions to avoid adverse effects to special-status species. If avoidance is infeasible, minimize and compensate adverse effects to rare, threatened, and endangered species as appropriate and in consultation with the appropriate resource agencies.
- Develop and implement restoration and/or monitoring plans as warranted. Plans should include methods for implementation, performance standards, monitoring criteria, and adaptive management techniques.
- Implement measures to reduce adverse effects of non-native plants and wildlife on special-status species.
- Maintain or restore the presence of very large, old trees, snags, large diameter logs, and decaying wood across the landscape.
- Maintain conditions suitable for spotted owl prey base, including decadence features such as mistletoe brooms, cavities, tree deformities, fungus growth, and large, decadent oaks.
- Maintain and restore shading and desired water temperatures, water quality, root strength, input of large woody debris, and input of organic matter (including leaf litter) in riparian and aquatic areas.
- Maintain and restore functioning wet meadows within or adjacent to late-successional forests.
- Maintain and restore watershed and hydrologic processes, including the role of mountain meadows.
- Maintain and restore riparian and aquatic vegetation structure and function.
- Maintain and restore connectivity of aquatic and riparian habitats.
- Maintain areas where species sensitive to human activity can successfully breed or feed without harassment.
- Implement adaptive management strategies as appropriate.

Valley Elderberry Longhorn Beetle

- All National Park Service personnel that coordinate construction work in the gorge and El Portal shall be familiar with locations and avoidance requirements for all elderberry shrubs within the construction zone.
- The contractor and all of the contractor's on-site personnel shall be briefed on the locations of elderberry, avoidance requirements, and penalties for noncompliance.
- Elderberry plants within the project area shall be individually fenced 20 feet from the dripline. The area will be signed before clearing and grubbing begins and before any large equipment is allowed to access to the site.
- A qualified National Park Service staff member shall be present for the duration of the project to ensure no unnecessary take of elderberry occurs. The staff member will have the authority to stop all construction activities should the potential for unnecessary take become apparent. He or she shall report any violations to the U.S. Fish and Wildlife Service.
- Any construction-related disturbance to the buffer zone (100-feet from the dripline) shall be minimized and restored following construction.

Special-Status Birds

- To avoid conflicts with nesting birds, construction activities within nesting habitat could occur outside the breeding season (which typically is March to August).
- Trees or structures with unoccupied nests (stick nests or cavities) shall be removed prior to March 1, or following the nesting season.
- Alternatively, if activities take place during the breeding season, a qualified biologist will conduct a pre-construction survey for individuals no more than two weeks prior to construction in March through August. If any special-status species is observed nesting, a determination shall be made whether or not the proposed action will impact the active nest or disrupt reproductive behavior.
- If it is determined that the action will not impact an active nest or disrupt breeding behavior, construction will proceed without any restriction or mitigation measure.
- If it is determined that construction will impact an active nest or disrupt reproductive behavior then avoidance strategies should be implemented. Construction shall be delayed within 500 feet of such a nest until a qualified biologist determines that the subject birds are not nesting or until any juvenile birds are no longer using the nest as their primary day and night roost.

Special-Status Aquatic Species

Implementation of the following conservation and protection measures would reduce or eliminate potential taking of special status amphibians and aquatic species. These measures were abstracted from the U.S. Fish and Wildlife Service Programmatic Biological Opinion for projects that may affect California red-legged frog, though the Biological Opinion does not specifically apply to this project because no California red-legged frog take is anticipated. Provisions listed below are considered reasonable and prudent for actions located within 100 feet of aquatic habitats:

- Work activities within potential special status aquatic species habitat shall be completed between April 1 and November 1 or during low-flow conditions.
- A qualified biologist shall survey the site two weeks before the onset of activities. If special status aquatic species, tadpoles, or eggs are found, the biologist will contact the appropriate agency(ies) to determine if moving any of these life-stages is appropriate.
- A qualified biologist shall conduct training sessions for all construction personnel before activities begin.
- The aquatic construction boundary shall be fenced to prohibit the movement of frogs into or out of the construction area and to control siltation and disturbance to aquatic habitat.
- All construction adjacent to or within aquatic habitats shall be regularly monitored.
- All trash that may attract predators shall be contained and regularly removed. Following construction, all trash and construction debris will be removed from work areas.
- All fueling and maintenance of vehicles and equipment shall occur at least 20 meters (65 feet) from any aquatic habitat.
- The spread or introduction of invasive non-native plant species shall be avoided. When practicable, invasive non-native plants in the project areas will be removed.
- The number and size of access routes, staging areas, and total area of activity shall be limited to the minimum necessary to achieve the project goal.
- Best management practices shall be implemented to control erosion.
- During dewatering, intakes shall be completely screened with wire mesh not larger than five millimeters (mm) to prevent aquatic species from entering the pump system. Water will be released or pumped downstream at an appropriate rate to maintain downstream flows during construction. Upon completion of construction activities, any barriers to flow will be removed in a manner that allows flow to resume with the least disturbance to the substrate.

- Where practicable, qualified biologists will permanently remove, from within the project area, any individuals of non-native species, such as bullfrogs, crayfish, and centrachid fishes, to the maximum extent possible.
- The downstream construction boundary shall be fenced to prohibit the movement of aquatic species into the construction area and to control creek siltation and disturbance to downstream riparian habitat. An exclosure fence shall be installed in the creek channel both upstream and downstream of construction activities as appropriate. Fences shall be installed at least six weeks prior to the commencement of any construction activities.
- Immediately after installation of the exclosure fence, a qualified biologist shall inspect all areas within the fence for aquatic species.

Special-Status Bats

- A qualified biologist shall conduct surveys to determine whether affected structures, mature trees, or other habitat (e.g., crevices) that would be affected by a proposed action, provide hibernacula or nursery colony roosting habitat.
- If surveys conducted during the fall do not reveal any bat species, then the action shall occur within three days in order to prevent the destruction of any bats that move into the area after the survey.
- If the site is being used as a winter roost, then the action shall occur either prior to (between September 1 and October 1) or after hibernation (January 15 to February 15).
- If spring surveys are conducted and reveal that the site is being used as a nursery colony, the action shall not occur until after August 15, when the pups are weaned and are volant.

Other Special-Status Mammals

- Excavation sites (trenches or pits) will have suitable ramps for all small mammals to exit these areas.
- A qualified biologist will be available to inspect all excavations before refilling occurs, ensuring that special-status species are passively relocated to avoid incidental take.
- Exclosure fencing can be erected prior to construction to ensure that no special-status species are within the construction area.
- Speed limits in primary fishery habitat shall be low to prevent accidental injury.

Air Quality

- Implement smoke management policies of the Fire Management Plan to reduce the potential for prescribed burning activities to have a major effect on air quality in the park or in the park vicinity.
- Site and design facilities to minimize objectionable odors.

Noise

- Implement standard noise abatement measures during park operations. Standard noise abatement measures could include the following elements: a schedule that minimizes impacts to adjacent noise-sensitive uses, use of the best available noise control techniques wherever feasible, use of hydraulically or electrically powered impact tools when feasible, and location of stationary noise sources as far from sensitive uses as possible.
- Site and design facilities to minimize objectionable noise elements.

Cultural Resources

- Subject projects to site-specific planning and compliance in accordance with the park's 1999 Programmatic Agreement. Efforts will be made to avoid adverse impacts through use of the Secretary of the Interior's Standards for Archeology and Historic Preservation, and by using screening and/or sensitive design that would be compatible with historic resources.
- Site and design facilities/actions to avoid adverse effects to sensitive cultural resources. Subject projects to site-specific planning and compliance in accordance with the park's 1999 Programmatic Agreement. Conduct archeological site monitoring and routine protection. Conduct data recovery excavations at archeological sites threatened with destruction, where protection or site avoidance during design and construction is infeasible.
- Avoid or mitigate impacts to ethnographic resources. Mitigation could include identification of and assistance in accessing alternative resource gathering areas, continuing to provide access to traditional use and spiritual areas, and screening new development from traditional use areas.
- Restore and rehabilitate cultural landscape resources to the extent feasible. This could entail restoring important historic viewsheds through manual thinning, rehabilitating meadows and open spaces through prescribed burning, removing noncontributing and incompatible structures, and incorporating new additions using compatible design.
- Continue and formalize ongoing consultations with culturally associated American Indian people. Formalize a parkwide gathering plan and discovery plan for American Indian remains. Protect known burial sites, and protect sensitive traditional use areas to the extent feasible.

- Conduct surveys for archeological sites, traditional resources, historic sites, structures, and cultural landscape resources as warranted.

Land-Use Planning

The National Park Service, in consultation with Mariposa County, shall prepare a detailed map of Section 35 in Wawona reflecting that the management zoning adopted under this alternative only applies to federal lands. This map will be completed as soon as practicable and will be available to the public upon request.

Before undertaking development of new employee housing units in Section 35, the National Park Service will identify and evaluate alternatives for housing opportunities outside of Yosemite National Park. The identification and evaluation of housing alternatives would be collaborative, with participation by appropriate county officials and representatives of affected communities. Decisions regarding the location of new employee housing will be in accordance with the Omnibus Parks and Public Lands Act of 1996 and applicable National Park Service policies. With regards to Wawona, it is the intent of the National Park Service to locate additional housing outside the park where possible.

The National Park Service will also continue in a collaborative planning process for the community of Wawona with the Wawona Town Planning Advisory Committee, the Mariposa County Planning Commission, and the Mariposa County Board of Supervisors. Although ultimate responsibility for regulating land uses in federal and private lands in Wawona will remain with the National Park Service and Mariposa County, respectively, the National Park Service will strive, to the maximum extent possible, to coordinate land use planning in Wawona with Mariposa County and the Wawona Town Planning Advisory Committee. The National Park Service and each party will designate a liaison as the principal contact in this collaborative process.

Construction of new administrative and housing facilities will be accomplished in Wawona and El Portal only after additional environmental compliance is completed. The site design and development process will provide for the participation of National Park Service and concession employees, residents, and other interested parties in the site development studies for housing, administrative functions, and community/commercial facilities. Such compliance will consider appropriate town planning area specific plans and will be in consultation with appropriate county officials and community representatives.

Transportation

- Implement the Restricted Access Plan when traffic and parking conditions in Yosemite Valley are overly congested.

Scenic Resources

- Where appropriate, facilities such as boardwalks and fences shall be used to route people away from sensitive natural resources, while still permitting access to important viewpoints.
- Facilities shall be designed, sited, and constructed to avoid or minimize adverse effects on natural communities and visual intrusion into the natural landscape.

Socioeconomics

- Eligible residents who might be effected by actions of this plan, and who meet the compensation criteria under provisions of the Uniform Relocation Act, could be eligible for housing and moving benefits.